WHAT IS CLAIMED IS:

1. A router provided on a boundary between the Internet and an intranet and used for receiving an incoming first packet and then passing on said first packet to a destination router indicated by a destination address of said first packet, said router comprising:

a decapsulation unit for carrying out a process of decapsulating said first packet into a second packet in the case of said first packet including a predetermined address specified as said destination address;

a first judgment unit for forming a judgment as to whether or not a user transmitting said first packet is an authorized user;

a second judgment unit for forming a judgment as to whether or not the present time is within a time range allowed for said user transmitting said first packet; and

a third judgment unit for forming a judgment as to whether or not said second packet obtained as a result of said process of decapsulating said first packet is allowed to pass through said intranet on the basis of a result of said judgment formed by said first judgment unit and a result of said judgment formed by said second judgment unit.

2. A router used for receiving an incoming packet

and then passing on said packet to a destination router

indicated by a destination address of said packet, said

router comprising:

a first judgment unit for forming a judgment as to

whether or not the present time is within a time range

open to a user transmitting said packet;

a second judgment unit for comparing a distance to

said destination address along a route to be traveled by

said packet by way of a predetermined network with a

distance to said destination address along a route to be

traveled by said packet by way of the Internet only

without passing through said predetermined network;

a third judgment unit for forming a judgment as to

whether to pass on said packet to said destination

address along said route passing through said

predetermined network or said route by way of said

Internet only without passing through said predetermined

network on the basis of a result of said judgment formed

by said first judgment unit and a result of said judgment

formed by said second judgment unit; and

an encapsulation unit which is used for creating an

encapsulated packet by adding an encapsulation header

destined for said predetermined network to said packet in

case a result of said judgment formed by said third

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judgment unit indicates that said packet is to be passed

on to said destination address by way of said

predetermined network.

3. A router according to claim 1 wherein:

said router further has a message-transmitting unit

for transmitting an open-network message to a second

router transmitting said first packet; and

said third judgment unit does not let said second

packet obtained as a result of decapsulation of said

first packet pass through said intranet prior to

transmission of said open-network message.

4. A router according to claim 1 wherein:

said router further has a message-transmitting unit

for transmitting a blocked-network message to a second

router transmitting said first packet; and

said third judgment unit does not let said second

packet obtained as a result of decapsulation of said

first packet pass through said intranet after

transmission of said blocked-network message.

5. An IP-packet transfer method for transmitting

an IP packet from a user network including an edge node

provided with an encapsulation function by way of an

intranet including another edge node provided with a

decapsulation function and a table of authorized users.

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6. A router according to claim 2 wherein said second judgment unit compares a distance to a destination address of a packet along a route to be traveled by said packet by way of a predetermined network with a distance to said destination address along a route to be traveled by said packet by way of the Internet only without passing through said predetermined network on the basis of distance information stored in a first table.

7. A router according to claim 2 wherein said encapsulation unit creates an encapsulated packet by adding an encapsulation header stored in a second table.

8. A router according to claim 6 wherein said distance information stored in said first table is obtained as a result of comparison of the first number of domains to be traveled to reach a predetermined router in said predetermined network with the second number of domains to be traveled to reach a destination address by communications with an adjacent router.

9. A router according to claim 2 wherein:

said router further has a message-receiving unit for receiving an open-network-message from said predetermined network; and

said third judgment unit transmits a packet by way of the Internet only without transmitting the packet by

way of said predetermined network prior to reception of said open-network message.

10. A router according to claim 2 wherein:

said router further has a message-receiving unit for receiving a blocked-network-message from said predetermined network; and

said third judgment unit transmits a packet by way of the Internet only without transmitting the packet by way of said predetermined network after reception of said blocked-network message.

11. A router according to claim 2 wherein:

said router further has an operation-verifying unit for verifying operations of a plurality of other routers in said predetermined network; and

said encapsulation unit creates an encapsulated packet including an additional encapsulation header destined for one of said other routers with a normal operation verified by said operation-verifying unit.

12. A router according to claim 1 wherein:

said router further has a first table for storing a user category indicating whether a user transmitting a packet is a preferentially treated user or an ordinary user and storing an open-network time range for a user transmitting a packet indicated as an ordinary user by

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said user category for each source address;

said router further has a fourth judgment unit for forming a judgment as to whether a user transmitting a packet is a preferentially treated user or an ordinary user on the basis of said user category stored in said first table for a source address of said packet; and

said third judgment unit lets a second packet originated by a user judged by said fourth judgment unit to be a preferentially treated user pass through said intranet without regard to said open-network time range.

13. A communication network comprising the Internet, an intranet including a first boundary router connected to said Internet and a user network including a second boundary router connected to said Internet wherein:

said first boundary router includes:

a decapsulation unit for carrying out a process of decapsulating a first packet into a second packet in the case of said first packet including a predetermined address specified as a destination address;

a first judgment unit for forming a judgment as to whether or not a user transmitting said first packet is an authorized user;

a second judgment unit for forming a judgment as to

whether or not the present time is within a time range

allowed for said user transmitting said first packet; and

a third judgment unit for forming a judgment as to

whether or not said second packet obtained as a result of

said process of decapsulating said first packet is

allowed to pass through said intranet on the basis of a

result of said judgment formed by said first judgment

unit and a result of said judgment formed by said second

judgment unit; whereas

said second boundary router includes:

a fourth judgment unit for forming a judgment as to

whether or not the present time is within a time range

open to a user transmitting a third packet;

a fifth judgment unit for comparing a distance to a

destination address of said third packet along a route to

be traveled by said third packet by way of said intranet

with a distance to said destination address along a route

to be traveled by said third packet by way of the

Internet only without passing through said intranet;

a sixth judgment unit for forming a judgment as to

whether to pass on said third packet to said destination

address along said route passing through said intranet or

said route by way of said Internet only without passing

through said intranet on the basis of a result of said

judgment formed by said fourth judgment unit and a result of said judgment formed by said fifth judgment unit; and

an encapsulation unit which is used for creating an encapsulated packet by adding an encapsulation header destined for said first boundary router to said third packet in case a result of said judgment formed by said sixth judgment unit indicates that said third packet is to be passed on to said destination address by way of said intranet.